

Define the future loss variables (not their expected value, and use proper notation) and derive the following relationships regarding policy premiums.

1. Fully cont, whole life ins:

(a) L_0^n

(b) $P = \frac{\delta \bar{A}_x}{1 - \bar{A}_x} = \frac{1}{\bar{a}_x} - \delta$

(c) What is P if $\mu_x = \mu$ for all x ?

4. Fully discrete, whole life ins:

(a) L_0^n

(b) $P = ?$ (find both versions)

(c) What is P if $q_x = q$ for all x ?

2. Fully cont, n -year endowment ins:

(a) L_0^n

(b) $P = ?$ (find both versions)

(c) What is P if $\mu_x = \mu$ for all x ?

5. Fully discrete, n -year endowment ins:

(a) L_0^n

(b) $P = ?$ (find both versions)

(c) What is P if $q_x = q$ for all x ?

3. Fully cont, n -year term ins:

(a) L_0^n

(b) $P = ?$ (find both versions ???)

(c) What is P if $\mu_x = \mu$ for all x ?

6. Fully discrete, n -year term ins:

(a) L_0^n

(b) $P = ?$ (find both versions ???)

(c) What is P if $q_x = q$ for all x ?
